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JUPITER 1968

UNITED STATES NAVAL OBSERVATORY

LONGITUDE OF CENTRAL MERIDIAN

CIRCULAR NO. 117

U. S. Naval Observatory, Washington, D. C. 20390

September 29, 1967

EPEMERIS OF THE RADIO LONGITUDE OF THE CENTRAL MERIDIAN OF JUPITER

System III (1957.0)

by

Berenice L. Morrison

In accordance with a Report to Commission 40 of the International Astronomical Union by the Working Group, on the definition of longitudes of radio emissions from Jupiter, System III (1957.0) has been defined by a provisionally adopted period, and a central meridian which at the epoch agrees with System II (*Information Bulletin* No. 8, 1962 March, page 4) :

Epoch 1957 January 1.0 U. T.	J. D. 243 5839.5
Period	9 ^h 55 ^m 29 ^s .37
Central meridian	
Longitude at epoch	108° 02
Daily motion	870.544

In this *Circular*, an ephemeris of the central meridian of the geometric disk on this system, with the corrections for phase to reduce to the illuminated disk, is given for 1968, 1969, 1970 and 1971. This publication continues the ephemerides given in *U. S. Naval Observatory Circular* No. 94. Data for further years will be made available as required.

JUPITER, 1968

LONGITUDE OF CENTRAL MERIDIAN

SYSTEM III (1957.0)

Day (O' U.T.)	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.
1	71.7	62.5	112.2	101.0	295.8	278.0	108.0	87.5	67.1	257.2	239.0	72.4
2	222.3	213.2	262.8	251.5	86.3	68.4	258.3	237.8	217.4	47.6	29.5	222.8
3	13.0	3.9	53.5	42.1	236.7	218.7	48.6	28.1	7.8	197.9	179.9	13.3
4	163.6	154.5	204.1	192.6	27.1	9.1	198.9	178.4	158.1	348.3	330.3	163.9
5	314.3	305.2	354.8	343.2	177.5	159.4	349.2	328.7	308.4	138.6	120.7	314.3
6	104.9	95.9	145.4	133.7	328.0	309.8	139.6	119.0	98.7	289.0	271.1	104.8
7	255.6	246.6	296.1	284.2	118.4	100.1	289.9	269.3	249.1	79.4	61.6	255.3
8	46.2	37.3	86.7	74.8	268.8	250.5	80.2	59.6	39.4	229.7	212.0	45.8
9	196.9	188.0	237.3	225.3	59.2	40.8	230.5	209.9	189.7	20.1	2.4	196.3
10	347.6	338.7	28.0	15.8	209.6	191.2	20.8	0.2	340.0	170.5	152.8	346.8
11	138.2	129.4	178.6	166.3	0.0	341.5	171.1	150.6	130.4	320.9	303.3	137.3
12	288.9	280.0	329.2	316.8	150.5	131.8	321.4	300.9	280.7	111.2	93.7	287.8
13	79.6	70.7	119.8	107.3	300.9	282.2	111.7	91.2	71.0	261.6	244.1	78.3
14	230.2	221.4	270.5	257.8	91.3	72.5	262.0	241.5	221.4	52.0	34.6	228.8
15	20.9	12.1	61.1	48.3	241.7	222.8	52.3	31.8	11.7	202.4	185.0	19.3
16	171.6	162.8	211.7	198.8	32.1	13.2	202.6	182.1	162.0	352.7	335.4	169.8
17	322.2	313.5	2.3	349.3	182.4	163.5	352.9	332.4	312.4	143.1	125.9	320.4
18	112.9	104.1	152.9	139.8	332.8	313.8	143.2	122.7	102.7	293.5	276.3	110.9
19	263.6	254.8	303.5	290.3	123.2	104.2	293.5	273.0	253.0	83.9	66.8	261.4
20	54.3	45.5	94.1	80.8	273.6	254.5	83.9	63.3	43.4	234.3	217.2	52.0
21	204.9	196.2	244.7	231.2	64.0	44.8	234.2	213.6	193.7	24.6	7.7	202.5
22	355.6	346.8	35.3	21.7	214.4	195.1	24.5	4.0	344.0	175.0	158.2	353.0
23	146.3	137.5	185.9	172.2	4.7	345.4	174.8	154.3	134.4	325.4	308.6	143.6
24	297.0	288.2	336.5	322.7	155.1	135.8	325.1	304.6	284.7	115.8	99.1	294.1
25	87.7	78.9	127.0	113.1	305.5	286.1	115.4	94.9	75.1	266.2	249.5	84.6
26	238.4	229.5	277.6	263.6	95.9	76.4	265.7	245.2	225.5	56.6	40.0	235.2
27	29.0	20.2	68.2	54.0	246.2	226.7	56.0	35.5	15.8	207.0	190.5	25.7
28	179.7	170.8	218.8	204.5	36.6	17.0	206.3	185.8	166.1	357.4	340.9	176.3
29	330.4	321.5	9.3	354.9	187.0	167.4	356.6	336.1	316.5	147.8	131.4	326.8
30	121.1		159.9	145.4	337.3	317.7	146.9	126.5	106.9	298.2	281.9	117.4
31	271.8		310.4		127.7		297.2	276.8		88.6		268.6

CORRECTION FOR PHASE

JAN.	MAR.	MAY	JULY	SEPT.	NOV.
- 3 0.4	1 0.0	4 -0.5	3 -0.3	1 0.0	4 0.2
1 0.3	5 0.0	8 -0.5	7 -0.3	5 0.0	8 0.3
5 0.3	9 -0.1	12 -0.5	11 -0.3	9 0.0	12 0.3
9 0.3	13 -0.1	16 -0.5	15 -0.2	13 0.0	16 0.3
13 0.2	17 -0.1	20 -0.5	19 -0.2	17 0.0	20 0.3
17 0.2	21 -0.2	24 -0.5	23 -0.2	21 0.0	24 0.4
21 0.2	25 -0.2	28 -0.5	27 -0.2	25 0.0	28 0.4
25 0.1	29 -0.2		31 -0.1	29 0.0	
29 0.1					
FEB.	APR.	JUNE	AUG.	OCT.	DEC.
2 0.1	2 -0.3	1 -0.5	4 -0.1	3 0.1	2 0.4
6 0.0	6 -0.3	5 -0.5	8 -0.1	7 0.1	6 0.4
10 0.0	10 -0.3	9 -0.5	12 -0.1	11 0.1	10 0.4
14 0.0	14 -0.4	13 -0.4	16 -0.1	15 0.1	14 0.5
18 0.0	18 -0.4	17 -0.4	20 0.0	19 0.1	18 0.5
22 0.0	22 -0.4	21 -0.4	24 0.0	23 0.2	22 0.5
26 0.0	26 -0.4	25 -0.4	28 0.0	27 0.2	26 0.5
	30 -0.5	29 -0.3		31 0.2	30 0.5
					34 0.5

JUPITER, 1969

LONGITUDE OF CENTRAL MERIDIAN

SYSTEM III (1957.0)

Day (O ^h U.T.)	JAN. ○	FEB. ○	MAR. ○	APR. ○	MAY ○	JUNE ○	JULY ○	AUG. ○	SEPT. ○	OCT. ○	NOV. ○	DEC. ○
1	58.5	47.3	306.1	297.1	135.4	120.8	312.8	293.2	272.8	102.1	82.5	274.5
2	209.1	198.0	96.8	87.8	285.9	271.3	103.1	83.5	63.1	252.4	232.9	64.4
3	359.6	348.6	247.5	238.4	76.5	61.7	253.5	233.8	213.4	42.7	23.2	214.8
4	150.2	139.3	38.2	29.1	227.0	212.1	43.9	24.1	3.7	193.0	173.6	5.2
5	300.8	289.9	188.8	179.7	17.6	2.6	194.2	174.5	154.0	343.4	323.9	155.7
6	91.4	80.6	339.5	330.3	168.1	153.0	344.6	324.8	304.3	133.7	114.3	306.1
7	242.0	231.2	130.2	121.0	318.6	303.4	134.9	115.1	94.6	284.0	264.7	96.5
8	32.5	21.9	280.9	271.6	109.2	93.8	285.3	265.4	244.9	74.3	55.1	246.9
9	183.1	172.6	71.6	62.3	259.7	244.3	75.6	55.7	35.2	224.7	205.4	37.3
10	333.7	323.2	222.3	212.9	50.2	34.7	226.0	206.0	185.5	15.0	355.8	187.8
11	124.3	113.9	13.0	3.5	200.7	185.1	16.3	356.3	335.8	165.3	146.2	338.2
12	274.9	264.6	163.7	154.1	351.3	335.5	166.6	146.6	126.1	315.6	296.5	128.6
13	65.5	55.2	314.3	304.8	141.8	125.9	317.0	296.9	276.4	106.0	86.9	279.1
14	216.1	205.9	105.0	95.4	292.3	276.3	107.3	87.2	66.7	256.3	237.3	69.5
15	6.7	356.6	255.7	246.0	82.8	66.7	257.7	237.6	217.0	46.7	27.7	219.9
16	157.3	147.2	46.4	36.6	233.3	217.1	48.0	27.9	7.4	197.0	178.1	10.4
17	307.9	297.9	197.1	187.2	23.8	7.5	198.3	178.2	157.7	347.3	328.4	160.8
18	98.5	88.6	347.7	337.8	174.3	157.9	348.6	328.5	308.0	137.7	118.8	311.3
19	249.1	239.3	138.4	128.4	324.8	308.3	139.0	118.8	98.3	288.0	269.2	101.7
20	39.7	29.9	289.1	279.0	115.3	98.7	289.3	269.1	248.6	78.3	59.6	252.2
21	190.4	180.6	79.8	69.6	265.7	249.1	79.7	59.4	38.9	228.7	210.0	42.6
22	341.0	331.3	230.5	220.2	56.2	39.4	230.0	209.7	189.2	19.0	0.4	193.1
23	131.6	122.0	21.1	10.8	206.7	189.8	20.3	0.0	339.5	169.4	150.8	343.6
24	282.2	272.7	171.8	161.4	357.2	340.2	170.6	150.3	129.9	319.7	301.2	134.0
25	72.8	63.4	322.5	312.0	147.6	130.6	321.0	300.6	280.2	110.1	91.6	284.5
26	223.5	214.0	113.1	102.5	298.1	280.9	111.3	90.9	70.5	260.4	242.0	75.0
27	14.1	4.7	263.8	253.1	88.6	71.3	261.6	241.2	220.8	50.8	32.4	225.4
28	164.8	155.4	54.5	43.7	239.0	221.7	51.9	31.5	11.1	201.1	182.8	15.9
29	315.4		205.1	194.3	29.5	12.1	202.2	181.8	161.4	351.4	333.2	166.4
30	106.0		355.8	344.8	179.9	162.4	352.6	332.1	311.7	141.8	123.6	316.8
31	256.7		146.5		330.4		142.9	122.4		292.2		107.3

CORRECTION FOR PHASE

JAN.	MAR.	MAY	JULY	SEPT.	NOV.
- 1 0 0.5	4 0 0.1	3 0 -0.3	2 0 -0.5	4 0 -0.1	3 0 0.1
3 0.5	8 0.0	7 -0.3	6 -0.5	8 -0.1	7 0.1
7 0.5	12 0.0	11 -0.3	10 -0.5	12 -0.1	11 0.1
11 0.4	16 0.0	15 -0.4	14 -0.4	16 -0.1	15 0.1
15 0.4	20 0.0	19 -0.4	18 -0.4	20 0.0	19 0.1
19 0.4	24 0.0	23 -0.4	22 -0.4	24 0.0	23 0.2
23 0.4	28 0.0	27 -0.4	26 -0.4	28 0.0	27 0.2
27 0.4		31 -0.5	30 -0.3		
31 0.3					
FEB.	APR.	JUNE	AUG.	OCT.	DEC.
4 0.3	1 0.0	4 -0.5	3 -0.3	2 0.0	1 0.2
8 0.3	5 0.0	8 -0.5	7 -0.3	6 0.0	5 0.2
12 0.2	9 -0.1	12 -0.5	11 -0.3	10 0.0	9 0.3
16 0.2	13 -0.1	16 -0.5	15 -0.2	14 0.0	13 0.3
20 0.1	17 -0.1	20 -0.5	19 -0.2	18 0.0	17 0.3
24 0.1	21 -0.2	24 -0.5	23 -0.2	22 0.0	21 0.3
28 0.1	25 -0.2	28 -0.5	27 -0.2	26 0.0	25 0.4
	29 -0.2		31 -0.1	30 0.0	29 0.4
					33 0.4

JUPITER, 1970

LONGITUDE OF CENTRAL MERIDIAN

SYSTEM III (1957.0)

Day (0 ^h U.T.)	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.
1	257.8	244.1	141.0	131.7	332.1	321.0	156.0	138.5	118.9	308.0	287.6	117.6
2	48.3	34.7	291.7	282.4	122.7	111.5	306.5	288.8	269.2	98.4	77.9	268.0
3	198.8	185.2	82.3	73.1	273.4	262.1	96.9	79.2	59.5	246.7	228.2	58.3
4	349.3	335.8	233.0	223.8	64.0	52.6	247.3	229.5	209.6	39.0	18.6	208.7
5	139.8	126.4	23.6	14.5	214.7	203.2	37.8	19.9	0.1	189.3	168.9	359.0
6	290.3	277.0	174.3	165.2	5.3	353.7	188.2	170.2	150.4	339.6	319.2	149.4
7	80.8	67.5	324.9	315.8	156.0	144.3	336.6	320.6	300.7	129.9	109.5	299.8
8	231.3	218.1	115.6	106.5	306.6	294.8	129.1	110.9	91.0	280.2	259.8	90.1
9	21.8	8.7	266.2	257.2	97.2	85.3	279.5	261.3	241.4	70.5	50.2	240.5
10	172.3	159.3	56.9	47.9	247.9	235.9	69.9	51.6	31.7	220.8	200.5	30.9
11	322.8	309.9	207.5	198.6	38.5	26.4	220.3	202.0	182.0	11.1	350.8	181.2
12	113.3	100.5	358.2	349.3	189.1	176.9	10.7	352.3	332.3	161.4	141.2	331.6
13	263.8	251.1	148.9	140.0	339.7	327.4	161.2	142.7	122.6	311.7	291.5	122.0
14	54.3	41.7	299.5	290.6	130.4	117.9	311.6	293.0	272.9	102.0	81.8	272.3
15	204.9	192.3	90.2	81.3	281.0	268.4	102.0	83.3	63.2	252.3	232.2	62.7
16	355.4	342.9	240.9	232.0	71.6	58.9	252.4	233.7	213.5	42.6	22.5	213.1
17	145.9	133.5	31.5	22.7	222.2	209.4	42.8	24.0	3.8	192.9	172.6	3.5
18	296.4	284.1	182.2	173.4	12.8	359.9	193.2	174.3	154.1	343.2	323.1	153.9
19	87.0	74.7	332.9	324.0	163.4	150.4	343.6	324.7	304.4	133.5	113.5	304.2
20	237.5	225.4	123.6	114.7	314.0	300.9	134.0	115.0	94.7	283.8	263.8	94.6
21	28.0	16.0	274.2	265.4	104.6	91.4	284.3	265.3	245.0	74.2	54.2	245.0
22	178.6	166.6	64.9	56.1	255.2	241.9	74.7	55.7	35.3	224.5	204.5	35.4
23	329.1	317.2	215.6	206.8	45.8	32.3	225.1	206.0	185.6	14.8	354.8	185.8
24	119.6	107.9	6.3	357.4	196.4	182.8	15.5	356.3	335.9	165.1	145.2	336.2
25	270.2	256.5	157.0	148.1	347.0	333.3	165.9	146.6	126.2	315.4	295.5	126.6
26	60.7	49.1	307.6	298.8	137.6	123.7	316.2	296.9	276.5	105.7	85.9	277.0
27	211.3	199.7	98.3	89.4	288.2	274.2	106.6	87.3	66.8	256.0	236.2	67.4
28	1.8	350.4	249.0	240.1	78.7	64.7	257.0	237.6	217.2	46.3	26.6	217.8
29	152.4		39.7	30.8	229.3	215.1	47.4	27.9	7.5	196.7	176.9	8.2
30	303.0		190.4	181.4	19.9	5.6	197.7	178.2	157.7	347.0	327.3	158.6
31	93.5		341.0		170.4		348.1	328.5		137.3		309.0

CORRECTION FOR PHASE

JAN.	MAR.	MAY	JULY	SEPT.	NOV.
- 2	0	2	1	3	2
2	0.4	0.3	-0.5	-0.3	0.0
6	0.4	0.3	-0.5	-0.3	0.0
10	0.4	0.2	-0.5	-0.2	0.0
14	0.5	0.2	-0.5	-0.2	0.0
18	0.5	0.1	-0.5	-0.2	0.0
22	0.5	0.1	-0.5	-0.2	0.0
26	0.5	0.1	-0.5	-0.2	0.0
30	0.5				

FEB.	APR.	JUNE	AUG.	OCT.	DEC.
3	4	3	2	1	4
7	0.5	0.1	-0.5	-0.1	0.1
11	0.5	0.0	-0.5	-0.1	0.1
15	0.4	0.0	-0.5	-0.1	0.1
19	0.4	0.0	-0.4	-0.1	0.1
23	0.4	0.0	-0.4	0.0	0.2
27	0.3	0.0	-0.4	0.0	0.2
			30	29	32

JUPITER, 1971

LONGITUDE OF CENTRAL MERIDIAN

SYSTEM III (1957.0)

Day (O ^a U.T.)	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.
1	99.4	83.2	337.7	326.3	166.3	157.3	355.7	341.4	323.9	153.9	133.2	322.3
2	249.8	233.7	128.3	116.9	317.0	307.9	146.3	131.9	114.2	304.2	283.5	112.6
3	40.2	24.2	278.8	267.6	107.7	98.6	296.9	282.3	264.6	94.5	73.8	262.9
4	190.7	174.7	69.4	58.2	258.3	249.3	87.4	72.8	55.0	244.6	224.1	53.9
5	341.1	325.1	220.0	208.9	49.0	39.9	236.0	223.2	205.3	35.1	14.4	203.6
6	131.5	115.6	10.6	359.5	199.7	190.6	28.5	13.6	355.7	185.4	164.7	353.9
7	281.9	266.1	161.1	150.2	350.4	341.2	179.1	164.1	146.0	335.7	315.0	144.2
8	72.3	56.6	311.7	300.8	141.1	131.9	329.6	314.5	296.4	126.0	105.3	294.5
9	222.8	207.1	102.3	91.5	291.8	282.5	120.1	104.9	86.7	276.3	255.6	84.8
10	13.2	357.6	252.8	242.1	82.4	73.1	270.7	255.3	237.0	66.7	45.9	235.1
11	163.6	146.1	43.4	32.8	233.1	223.8	61.2	45.8	27.4	217.0	196.2	25.5
12	314.0	298.6	194.0	183.5	23.8	14.4	211.7	196.2	177.7	7.3	346.5	175.8
13	104.5	89.2	344.6	334.1	174.5	165.0	2.2	346.6	328.1	157.6	136.8	326.1
14	254.9	239.7	135.2	124.8	325.2	315.6	152.8	137.0	118.4	307.9	287.1	116.4
15	45.4	30.2	285.8	275.4	115.9	106.3	303.3	287.4	268.7	98.2	77.4	266.7
16	195.8	180.7	76.4	66.1	266.5	256.9	93.8	77.8	59.1	248.5	227.7	57.1
17	346.2	331.2	227.0	216.8	57.2	47.5	244.3	228.2	209.4	38.8	18.0	207.4
18	136.7	121.8	17.6	7.5	207.9	198.1	34.8	18.6	359.7	189.1	168.3	357.7
19	287.1	272.3	166.2	158.1	358.6	348.7	185.3	169.0	150.1	339.4	318.6	148.1
20	77.6	62.8	318.8	308.8	149.3	139.3	335.8	319.4	300.4	129.7	108.9	298.4
21	228.0	213.4	109.4	99.5	299.9	289.9	126.3	109.8	90.7	280.0	259.2	88.7
22	18.5	3.9	260.0	250.1	90.6	80.5	276.8	260.2	241.0	70.3	49.5	239.1
23	169.0	154.4	50.7	40.8	241.3	231.1	67.2	50.6	31.4	220.6	199.8	29.4
24	319.4	305.0	201.3	191.5	32.0	21.7	217.7	200.9	181.7	10.9	350.1	179.7
25	109.9	95.5	351.9	342.2	182.6	172.3	8.2	351.3	332.0	161.2	140.5	330.1
26	260.3	246.1	142.5	132.9	333.3	322.9	158.7	141.7	122.3	311.5	290.8	120.4
27	50.8	36.6	293.1	283.5	124.0	113.5	309.1	292.0	272.6	101.8	81.1	270.7
28	201.3	187.2	83.8	74.2	274.6	264.0	99.6	82.4	62.9	252.1	231.4	61.1
29	351.7	234.4	224.9	224.9	65.3	54.6	250.1	232.8	213.3	42.4	21.7	211.4
30	142.2	25.0	15.6	216.0	205.2	40.5	23.2	3.6	192.7	172.0	1.8	
31	292.7	175.7	6.6			191.0	173.5		342.9			152.1

CORRECTION FOR PHASE

[illegible]